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Air Operating Permit
Excess Emissions Report
Form Part II

| | | | |
|---------------------------------|-----------------------------|---|------------|
| Name of Facility | Shell, Puget Sound Refinery | Reported by | Tim Figgie |
| Date of notification | Jan 30, 2010 | Incident type: breakdown/ upset/startup or shutdown | Shutdown |
| Start Date | Jan 30, 2010 | Start Time: | 16:00 PM |
| End Date | Jan 30, 2010 | End Time: | 23:00 PM |
| Process unit or system(s): SRU3 | | | |

Incident Description

On January 30 at approximately 4 PM high SO₂ readings occurred on SRU3 during shutdown of the unit for maintenance and repair. There was no AAG feed in the unit at the time. The 250-PPM SO₂ 12-hour average limit was exceeded and these emissions are part of normal shutdown and are unavoidable.

Immediate steps taken to limit the duration and/or quantity of excess emissions:

All AAG feed was routed to SRU4.

Applicable air operating permit
term(s): 5.8.15

| | | |
|---|----------------------------------|--------------------------|
| Estimated Excess Emissions: Based on SO ₂ CEMS and calculated stack flow | Pollutant(s): SO ₂ | Pounds (Estimate): 76 |
|---|----------------------------------|--------------------------|

The incident was the result of the following (check all that apply):

- ☐ Scheduled equipment startup
- ☒ Scheduled equipment shutdown
- ☐ Poor or inadequate design
- ☐ Careless, poor, or inadequate operation
- ☐ Poor or inadequate maintenance
- ☐ A reasonably preventable condition

Did the facility receive any complaints from the public?

- ☒ No
- ☐ Yes (provide details below)

Did the incident result in the violation of an ambient air quality standard

- ☒ No
- ☐ Yes (provide details below)

Root and other contributing causes of incident:

These emissions are part of normal shutdown and are unavoidable.

The root cause of the incident was:

PSR0000486

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(The retention of records of all required monitoring data and support information shall be kept for a period of five years from the date of the report as per the WAC regulation (173-401-615))

- ☐ Identified for the first time
☒ Identified as a recurrence (explain previous incident(s) below – provide dates)

These emissions are part of normal shutdown and are unavoidable.

Are the emissions from the incident exempted by the NSPS or NESHAP "malfunction" definitions below?

- ☐ No
☒ Yes (describe below)

These emissions are part of normal shutdown and are unavoidable.

Definition of NSPS "Malfunction": Any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or failure of a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. 40 CFR 60.2

Definition of NESHAP "Malfunction": Any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. 40 CFR 63.2

Analyses of measures available to reduce likelihood of recurrence (evaluate possible design, operational, and maintenance changes; discuss alternatives, probable effectiveness, and cost; determine if an outside consultant should be retained to assist with analyses):

These emissions are part of normal shutdown and are unavoidable.

Description of corrective action to be taken (Include commencement and completion dates):

See above

If correction not required, explain basis for conclusion:

See above

Attach Reports, Reference Documents, and Other Backup Material as Necessary. This report satisfies the requirements of both NWCAA regulation 340, 341, 342 and the WAC regulation (173-400-107).

Is the investigation continuing? ☒ No ☐ Yes

Is the source requesting additional time for completion of the report? ☒ No ☐ Yes

Based upon information and belief formed after reasonable inquiry, I certify that the statements and information in this document and all referenced documents and attachments are true, accurate and complete:

Prepared By: Tim Figgie Date: February 8, 2010

Responsible Official or Designee: Jason G. Krueger Date: 2/12/10